

METHOD OF DETERMINING BATTERY POWER LIMITS FOR AN ENERGY STORAGE SYSTEM OF A HYBRID ELECTRIC VEHICLE

ABSTRACT OF THE DISCLOSURE

A method of providing closed-loop control of power flowing into and out of an energy storage system (ESS), wherein the ESS comprises a battery is provided. The method may be implemented as a computer control 5 algorithm for determining the charge and discharge limits for the ESS in a hybrid electric vehicle (HEV), wherein the ESS comprises a battery pack or array. The method comprises determining charge and discharge power limits during each of a plurality of control loops, comparing these limits during each of the plurality of control loops, and providing a charge power limit output and 10 a discharge power limit output for use in a subsequent control loop which are based upon the charge power limit and the discharge power limit. The charge power limit output and discharge power limit output are set equal to the discharge power limit and charge power limit, respectively, when the discharge power limit is greater than the charge power limit; and are selected 15 from the group consisting of the charge power limit, the discharge power limit and zero when the discharge power limit is less than or equal to the charge power limit.